

Chapter 1

The financial markets outlook

The global economy is caught between two major headwinds: the reversal of the investment-heavy commodity supercycle; and the “L-shaped” recovery in advanced economies caused by the aftermath of the financial crisis and the interaction of re-regulation with low and negative interest rates. The zero and even negative time value given to money is having perverse effects. Investors are being herded into concentrated and less liquid positions which work against long-term value creation and productivity growth. Normalisation of interest rates and a sustainable recovery of asset prices is shown to depend on which global scenario emerges: an “inflation first” set of policies favoured by central banks, and avoidance of a “creative destruction” phase to deal with over-investment and excess capacity in certain sectors and countries; or “productivity first” policies that bring about structural adjustment more quickly. The scenario most likely to emerge is one of continued monetary ease and choppy and sometimes volatile markets. Equities are least overvalued but cannot rise sustainably on monetary policy alone. Longer-run negative valuation adjustments are implied for some of the other most severely overvalued asset classes.

Main findings

- The world is caught between two structural headwinds: a) the reversal of the commodity supercycle and the related (and often underestimated) energy and materials company investment on which growth came to depend; and b) the aftermath of the global financial crisis with re-regulation contributing to a continuation of the L-shaped recovery in advanced economies, and low and negative interest rates hurting bank returns and introducing distortions in investment portfolios.
- The supercycle headwind was caused by massive over-investment in the BRIICS, especially the People's Republic of China, and the sector misallocation of resources globally resulting from it. The return on equity, less the cost of capital, is negative in the key supercycle sectors in emerging economies and this has spilled into other sectors globally. Despite a bounce related to recent Chinese policy, commodity prices are low and the Baltic Dry Index was at an all-time low in early 2016. This will take years to set right.
- Some regions (unlike the United States) have not been able to deal with non-performing loans by taking them off bank balance sheets; and bank exposure to energy assets is a problem. Both issues are reinforcing the L-shaped recovery. Negative interest rates interact with regulatory measures that force banks to hold high quality liquid assets. Bank distance-to-default (DTD) measures are declining again.
- The low and sometimes negative interest rates imply a zero or negative time value of money which is causing investor responses that portend problems for the future. Investors are being herded into concentrated trades with poor liquidity. A kind of barbell has developed with alternative assets: with private equity (because they specialise in managing long-term risk premiums) and exchange-traded funds (because their fees are low and easier access to illiquid assets can be obtained with promises of daily liquidity) at one end; and products which generate absolute cash-like returns based on leverage at the other end. In between is an allocation to equities and bonds within which further herding of investors into concentrated positions is found: in high-yield non-investment grade bonds; and in equities that focus on providing strong dividends and buybacks (instead of investment).
- Cross-border divestment (apparent in mergers and acquisition activity) concentrated in emerging economies accelerated after the crisis. To this weakened longer-term trend component was added portfolio outflow pressure at the turn of the year when US tightening came into view, resulting in exchange rate pressures (temporarily abated in March with the softer Federal Reserve tone).
- Normally markets have a way of forcing required policy adjustments. But because emerging countries are less market oriented, pressures arising from resource misallocation are also relayed elsewhere. Emerging countries (and notably China) have increased market restrictions and Chinese equity prices are distorted by policy actions.
- Corporate borrowing is concentrated in the supercycle sectors (especially energy, materials and capital goods) which are particularly exposed to falling commodity prices.

- The impact of normalisation or “lift-off” in interest rates will depend on whether this occurs as an “inflation first” scenario with more monetary ease and emerging economy investment spending (which raises global supply further), or as part of a “productivity first” strategy led by structural policy. With the former, central banks would be obliged to lift interest rates in response to inflation before the “creative destruction” phase to deal with excess capacity, as happened in 2009. The “lift-off” in interest rates would turn into a two-step process.
- If a healthy “creative destruction” phase ensued, as higher interest rates confronted companies with a realistic cost of capital and structural policies were implemented, then the scene would be set for more sustainable growth and normalised interest rates later on. The required structural policies to lift productivity that might actually work, based on evidence from the analysis of financial decisions of companies that succeeded following the crisis, are set out.
- If monetary policy continues to try to do the heavy lifting without global structural reform, then choppy and sometimes volatile markets with little sustainable rise in asset valuations will be the result. Equity is the least overvalued asset class, but even here a sustained rally would be unlikely unless productivity growth accelerates – it cannot be based on monetary policy alone.

Introduction

Seven years of extremely easy monetary policy has not restored the investment and productivity growth needed to raise income per head, real wages, demand and growth. This policy was originally designed to stabilise the financial system and support economic recovery, but somehow has slipped into trying to compensate for the absence of the other policies that are needed. Monetary policy is now trying to deal with issues that are not wholly “nominal” in their origins.

The world economy, which has seen poor growth and no sign of inflation since the global crisis, is facing two major headwinds:

- The reversal of the commodity supercycle based on over-investment which has led to excess capacity in emerging economies; and
- The L-shaped recovery in the advanced economies resulting from deleveraging, as banks struggle to deal with non-performing loans in some parts of the world while new financial regulations are imposed.

Central banks have stepped in because other policies have not dealt with these structural problems at their source. However, quantitative easing and low-interest-rate monetary policy can do little to correct over-investment in global industrial sectors. At this point, the unintended consequences of such policy may be harming the prospect of sustainable recovery.

- Zero rates imply a zero time value for money and can encourage short-termism, whereas innovation and productivity growth require long-term risk taking in capital spending and its financing.
- Low and negative interest rates may combine with regulatory factors to hurt banks in some advanced economies.
- These policies have also created incentives for investors that may lead to problems for the future. Very low rates have created a demand for a kind of portfolio “barbell” in the

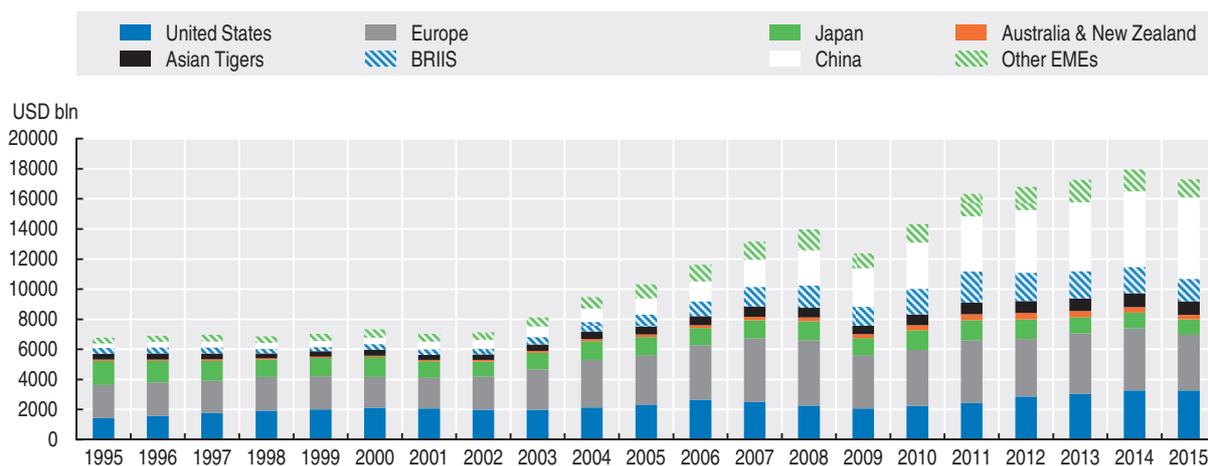
world of institutional investors: large asset allocations to both i) private equity and low-cost exchange-traded funds (ETFs) giving easy exposure to less liquid assets at one end; and ii) capital market risk assets, based on leverage, that pay higher short-term cash yields (e.g. hedge and absolute return funds) at the other end. In between is an allocation to equities and bonds within which further herding of investors into concentrated positions is found: in high-yield non-investment grade bonds; and in equities that focus on providing strong dividends and buybacks.

This chapter is concerned with analysing these issues and presenting a financial outlook based on the research within this, and some of the other chapters, in this publication.

Headwind 1: The reversal of the commodity supercycle

The prolonged boom and subsequent collapse of energy and commodity prices is related to the reversal of the so-called “supercycle”. The development strategy in emerging economies based on saving, state-driven investment and exporting to advanced economies was never going to be sustainable. This is because: the group became too big for all to follow the “Asian Tigers” model; and investment-led-growth using existing technology within the lower-value-added parts of the global supply chain does not enhance company productivity growth.¹ Figure 1.1 shows national saving by major countries and regions in the global economy. Saving declines in 2015 and national investment follows, more-or-less, exactly the same pattern. Prior to the 2000s, emerging market national saving and investment was around 20% of the world economy total and it then rose to over 50% by 2015 – in the space of a single decade. By far the greater part of the rise in saving and investment in the world economy is attributable to emerging market economies (EMEs) and to China in particular, although Europe also rose. At the start of the 2000s, China was responsible for around 5% of the total and subsequently this rose to be over 30%, far in excess of the United States or Europe, both at around 20% each. State-owned enterprises (SOEs) and banks were heavily involved in the process within EMEs, so market discipline was largely absent in the allocation of resources.

Figure 1.1. **Emerging economies drive recent surge in gross national saving and investment, 1995-2015**



Note: Europe refers to the European Union, Norway and Switzerland.

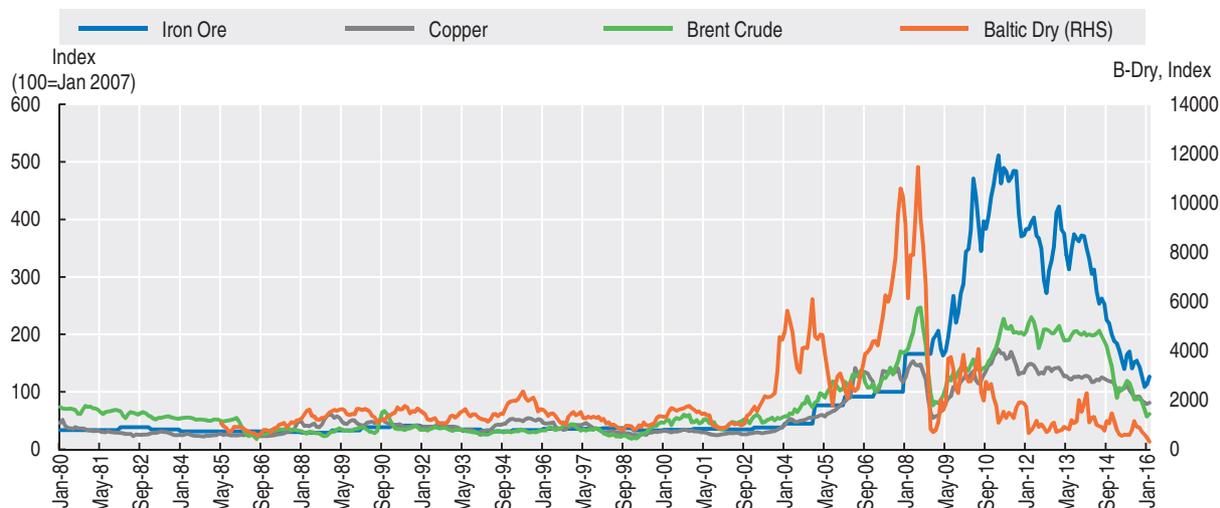
Source: OECD calculations, IMF World Economic Outlook Database.

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This strategy in countries often poor in natural resources stimulated investment in the energy, materials and industrials sectors on an unprecedented scale. This growth led to over-investment in these sectors; and this began reversing in 2015. The extent of the importance of this reversal in global growth is easy to underestimate.

Figure 1.2 shows a long time series of key commodity prices and the Baltic Dry Index (an index of the US dollars paid per day to hire four categories of ships² over 23 shipping routes). This presents a price snapshot of how over-investment works. Demand picks up due to state-driven investment and growth, commodity and shipping shortages abound and prices rise sharply. This rise in price stimulates strong investment in commodities and ships.³ Supply in the end becomes too great in relation to demand (contributing to low inflation), and resource prices then fall. This leaves past investments stranded with financial consequences for the companies that borrowed – which for China has been estimated to be around 230% of GDP – and then capital expenditure declines relative to depreciation and a reversal begins.

Figure 1.2. **Commodity prices and the Baltic Dry Index, 1980-2016**



Source: OECD calculations, Thomson Reuters Datastream.

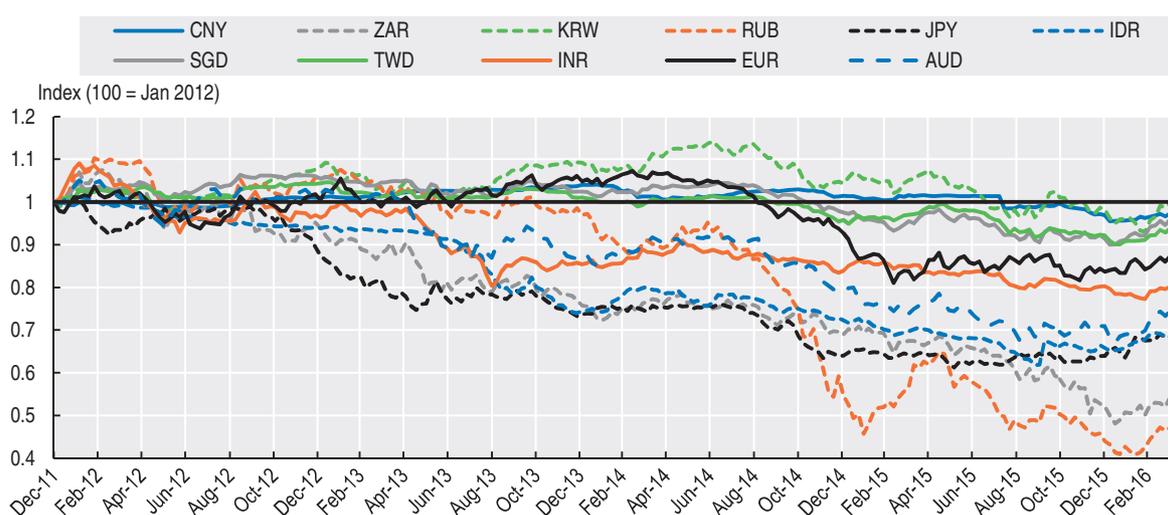
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The so-called “hog cycle” in farming has occurred on a global scale. Unlike swine that can be slaughtered, however, investment in energy, commodities, related services and infrastructure are long-term in nature and may take years to be built and years to be run down via depreciation. Investing on the assumption of a supercycle that turns out not to be sustainable gives rise to over-investment in the affected sectors with negative consequences for future investment and for dealing with past liabilities.

This current period of weakening investment has also coincided with the stronger US dollar since 2012 (as the US economy has been improving vis-à-vis other countries in the past few years). In addition to weakening fundamentals, movement in the dollar is a swing factor that can drive turning points in commodity prices: since commodities are priced in dollars, a stronger dollar acts to reduce commodity demand from the non-dollar-block countries (e.g. prices rise in yen and euro which can reduce demand from places like Japan and Europe); conversely, commodity prices tend to rise when the dollar falls.

The commodity currencies are recognisable as those dropping the most sharply in Figure 1.3. Commodity-based countries have little choice but to allow the exchange rate to move down as a shock absorber for the negative impact on their terms of trade. The dollar block currencies (China and the Asian Tigers) in the higher part of the chart have been relatively stable versus the dollar and commodity prices are less affected by currency shifts for this group. Between these sit the yen and the euro, whose movements versus the dollar are swing factors affecting commodity demand. These currencies depreciated in 2013 and 2014, respectively, as their quantitative easing (QE) policies came into effect, reinforcing the influence of weak fundamentals on commodity prices. Subsequently these depreciations stalled out in 2015, and in 2016 the yen has begun to rise versus the dollar, contributing to the early 2016 bounce in commodity prices.

Figure 1.3. **Exchange rates: The supercycle reversal breaks the pack, 2011-16**



Note: Exchange rates are expressed in US dollar per national currency.
Source: OECD calculations, Thomson Reuters Datastream.

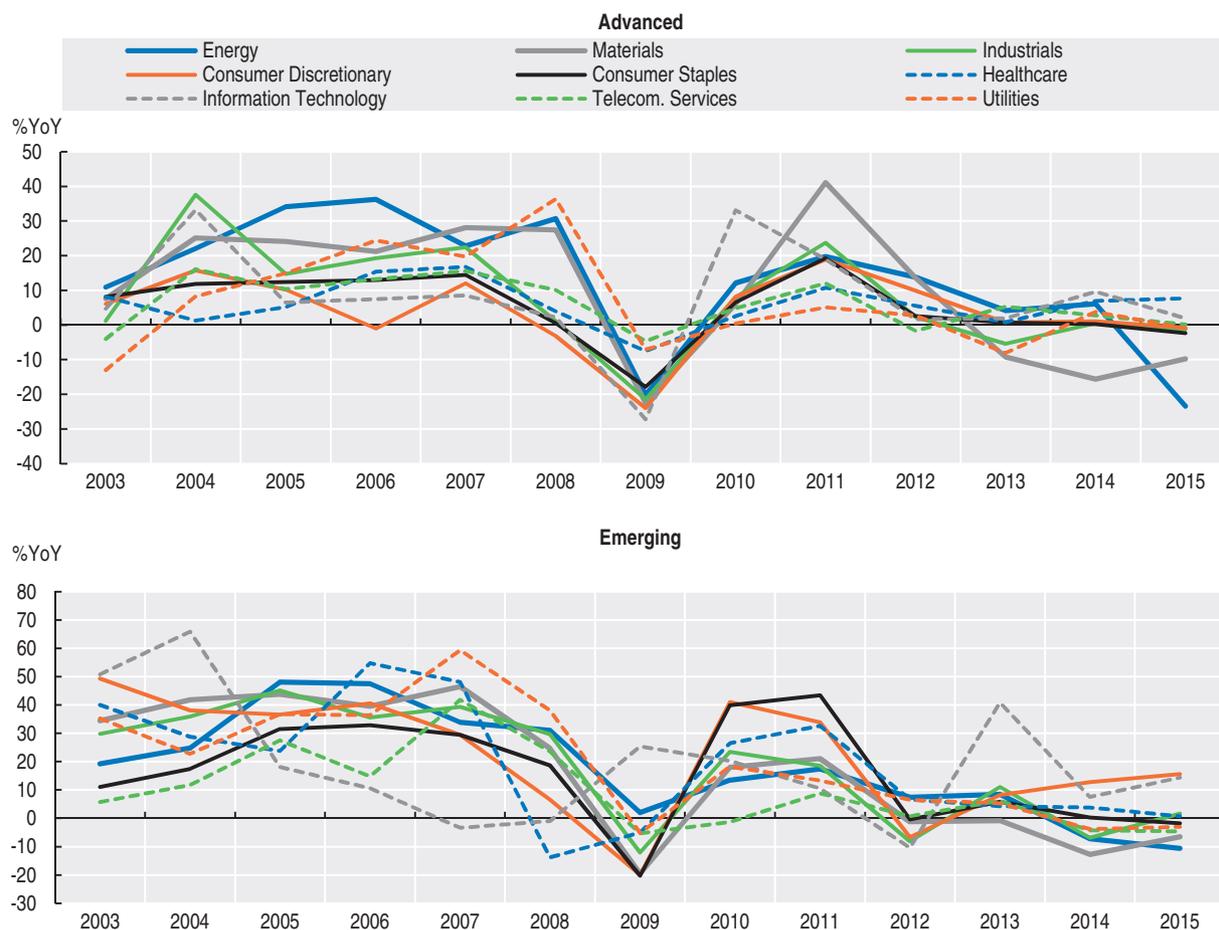
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It's big: the unusual global dependence on energy and materials investment

The sheer scale of national saving and investment in the BRIICS led to the build-up of excess capacity in many sectors. During the global financial crisis of 2008, some of these countries responded by further accelerating investment and borrowing, and hence saw little loss of momentum in growth compared to the advanced economies. This caused excess capacity and indebtedness to build up even further in the supercycle sectors. This investment was not limited to EME energy and resources. The high price of oil and gas brought in new players in North America, and energy investment advanced on a global scale, and derived demand from supercycle sectors spread to related industries (utilities, capital goods, transport, etc.).

Figure 1.4 shows the rates of growth of capital expenditure in the nine broadest non-financial and non-real estate Global Industry Classification Standard sectors for advanced economies and EMEs using a sample of 11 000 of the world's largest companies. After the tech bust came the supercycle mania. Capital expenditure in the energy and materials sectors grew strongly in EMEs, reaching rates of 34%, and 46% p.a., respectively, by 2007 – much faster than in advanced economies (at 23% and 28% in 2007).⁴

Figure 1.4. Capital expenditure by sector in advanced and emerging economies, 2003-15



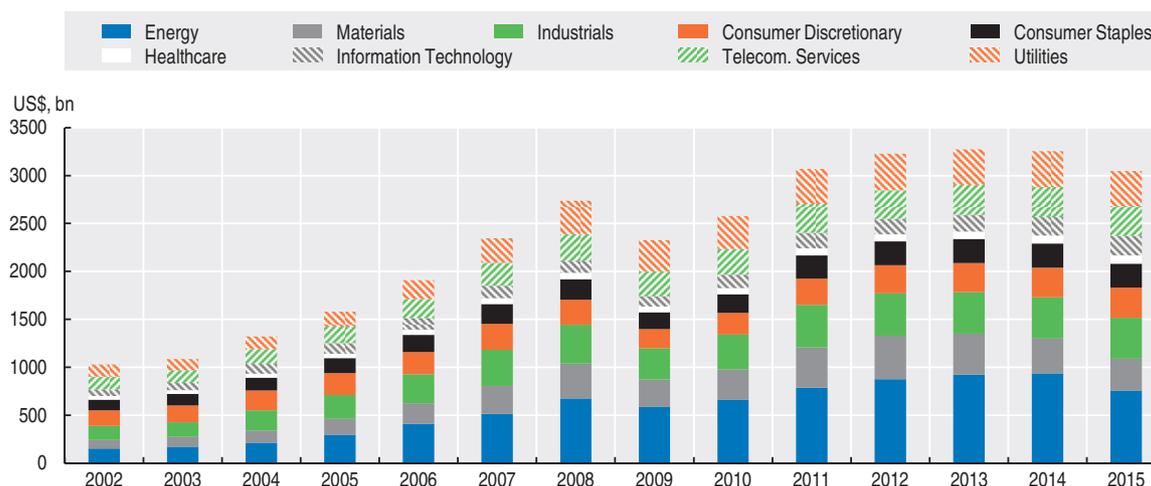
Source: OECD calculations, Bloomberg.

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It is seldom appreciated just how important these two sectors became as a share of global (non-financial and non-real estate) capital expenditure by companies shown in Figure 1.5. In the sample of 11 000 companies these percentage shares peaked around 2013-14. By 2014, the energy and materials sectors together constituted 40% of global listed-company capital expenditure across all sectors (excluding banking and real estate). If related industrials and utilities are added, this rises to a 60% share.

Energy is a vast sector consisting of oil, gas, drilling, oil and gas equipment and services, exploration, refining, storage, transportation, coal and consumable fuels. Materials also cover widespread industries that are major inputs to the industrialisation of EMEs including: chemicals, fertilisers, industrial gases, construction materials, metal and glass containers, paper packaging, aluminium, diversified materials and mining, gold, precious metals and minerals, forest products and paper products.

The slowdown and reversal of such a major part of investment has become and will remain a major headwind to world economic growth going forward. Capital spending in these three sectors has moved into negative growth in EMEs since 2014. This is compounded by similar weakness induced in advanced economies.

Figure 1.5. **Global capital expenditure by sector, 2002-15**

Source: OECD calculations, Bloomberg.

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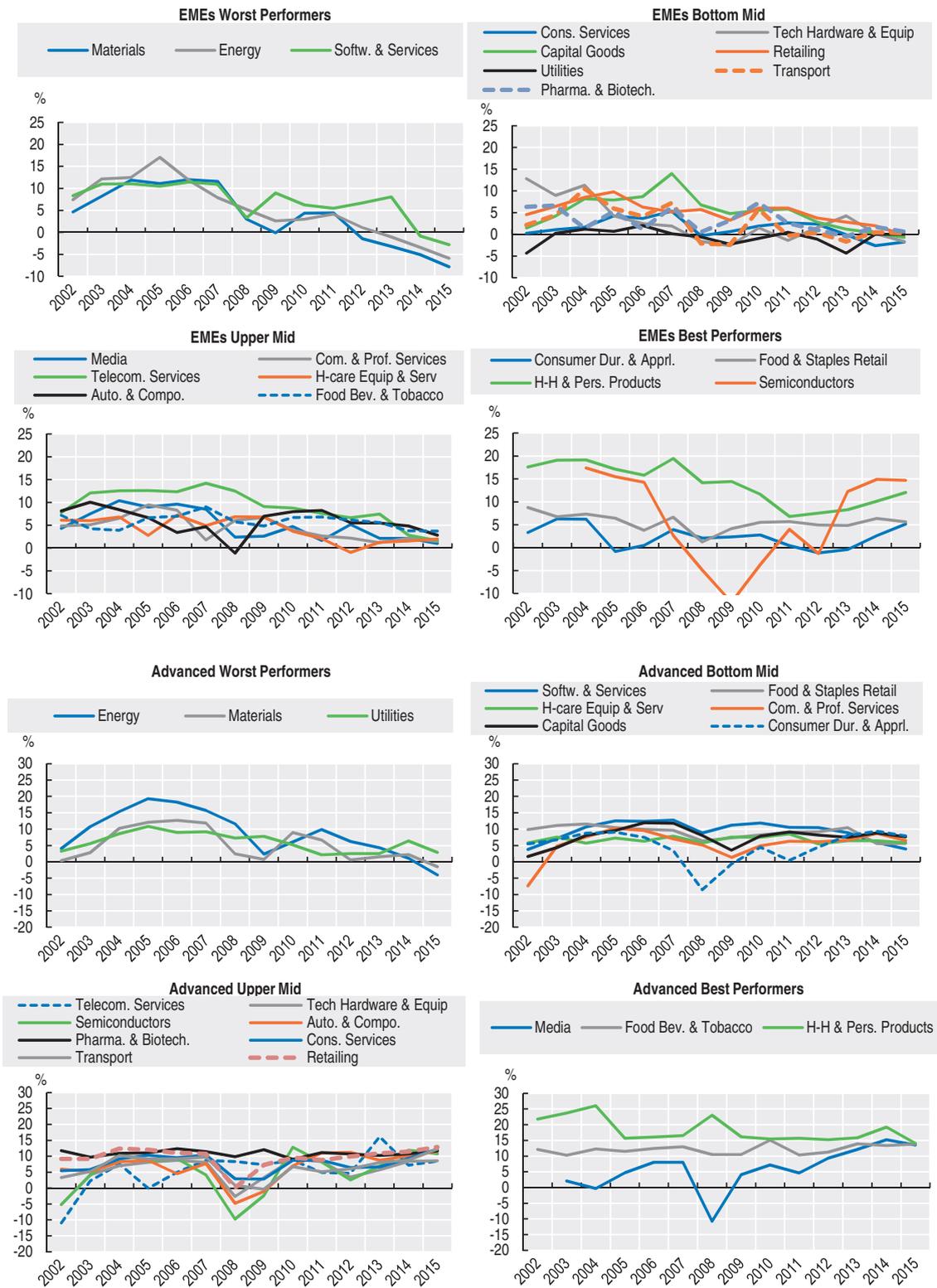
Monetary policy does not address this problem of sector misallocation

A snapshot of the over-investment problem in certain sectors in EMEs is compared with advanced economies in Figure 1.6, using the same scale for easy comparison.⁵ If the return on equity (ROE) less the cost of capital (COK) is low or negative there is an indication of over-investment: the ROE is less than the weighted cost of external finance for the company. The sectors are ranked according to the ROE-COK in 2015. The charts in the worst categories (the two top panels) for emerging economies suggest that the sectors most prone to excess capacity are precisely those where investment was strongest in the pre-crisis period and most of which are associated with the supercycle, notably: materials, energy, software and services, utilities, consumer services (including investment in hotels, resorts, casinos, etc.), capital goods, transport, retailing and technology hardware and equipment.⁶ The reversal of the supercycle has also affected interrelated advanced economy ROEs (shown in the four bottom panels), and notably also in the energy, materials and utilities sectors. It is striking, however, that outside of these three sectors advanced country returns (where open economy market disciplines operate) are on average better than in the emerging world. The presence of excess capacity in certain sectors of the world economy cannot be addressed by a one-size-fits-all monetary policy.

Restructuring high-saving emerging market economies will not happen quickly

Restructuring high-saving emerging economies towards being more consumer-oriented societies cannot happen quickly. Restructuring takes time and, in any case, large emerging market companies are biased towards a structurally low wages share. Such companies in the sample used in this study have an average wages share in company value added of just 39%, compared to an average of 64% in advanced economy companies. Raising wages to rectify this imbalance will cause the ROEs shown earlier to decline much further, which in turn will make it difficult for the companies to service their substantial debt. Rising wages will also cause inflation and would require monetary policy to tighten. All of these pressures would be disruptive. This means that, like Japan in previous decades, rectifying global imbalances – even if countries were to be supportive of a change in policy direction – would have to take some considerable time.

Figure 1.6. Sector investment misallocation: ROE-COK in emerging versus advanced economies, 2002-15



Note: ROE: return on equity; COK: cost of capital.
 Source: OECD calculations, Bloomberg.

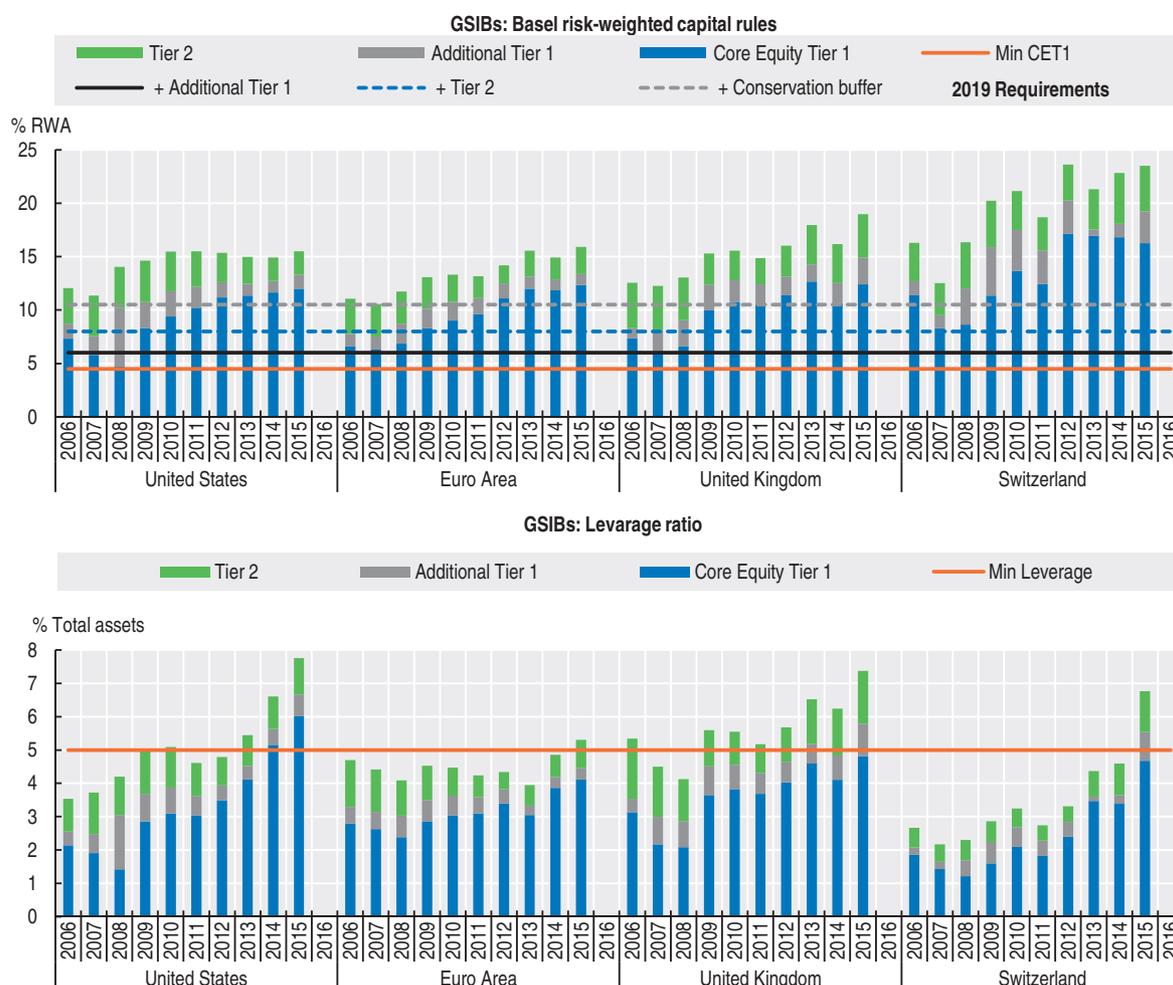
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Headwind 2: The L-shaped recovery in advanced economies due to the aftermath of, and responses to, the financial crisis

The financial crisis of 2008 was the first phase of the collision in mega-trends that policy makers are still trying to deal with. This led to unconventional monetary policy and a move to zero (and now negative) rates in many countries to avoid a collapse of the world financial system. This has been followed by new rules to re-regulate the banking system. Deleveraging associated with these new capital and liquidity rules, together with the size of current and prospective non-performing loans, have become the prime contributors to the L-shaped recovery in many advanced economies. This has always been expected by financial market analysts who argued that bank ROEs would fall sharply, particularly for banks involved with capital market products.⁷ But this has been the intention of re-regulation: i.e. policy makers aiming to have a smaller, safer and more consolidated banking system where higher risks are priced appropriately. Banks have pushed back hard against these reforms.⁸

Figure 1.7 shows the Basel III capital requirements in the top panel and the simple leverage ratio long argued by the OECD to be the preferred binding measure in the bottom

Figure 1.7. **Deleveraging and the capital rules: GSIBs, 2006-16**



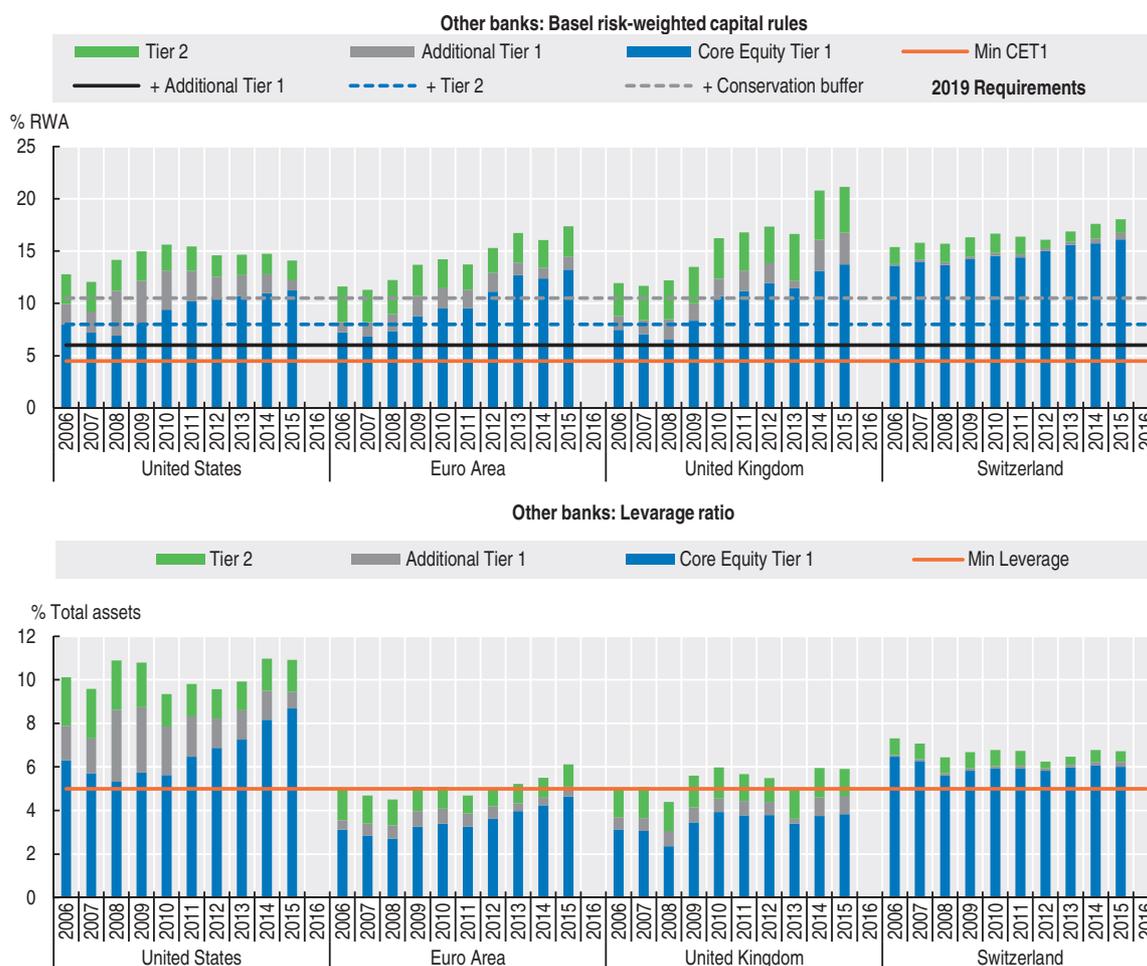
Note: Total assets of US banks have been converted to an IFRS basis. GSIBs: Globally systemically important banks.
Source: OECD calculations, SNL Financials.

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panel.⁹ The rise in the ratio of core tier 1 (T1) equity to total assets in all of the jurisdictions shown in blue reflects the deleveraging pressure on economies. All banks in all countries appear to satisfy the Basel rules, and have done so for some time. The total loss absorbing capacity (TLAC) extension of Basel III for globally systemically important banks (GSIBs) was also examined. This work (not reported) found that only a handful of such banks would be required to issue more long-term unsecured debt for potential bail-in purposes.

If the Basel risk-weighted rules were the binding constraint on banking then the L-shape recovery should be lifting, as it has done in the United States. But this is not the case. The OECD recommendation that banks should have core equity equal to 5% of their total un-weighted assets has only been surpassed in the United States. Bad loans have not been dealt with in Europe and this makes it more difficult (with the continual slow bleeding of non-performing loan write-offs) to finish raising capital and to begin lending. For other non-GSIBs, which are very important in lending and economic growth, lack of T1 equity is most apparent in Europe and the United Kingdom, but not the United States and Switzerland. The United States and Switzerland are parts of the world where economic growth is reflecting less of the L-shape pattern that is more prevalent elsewhere.

Figure 1.8. **Deleveraging and the capital rules: Other non-GSIB banks, 2006-16**



Note: Total assets of US banks have been converted to an IFRS basis. GSIBs: Globally systemically important banks.

Source: OECD calculations, SNL Financials.

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Having prevented a collapse of the global financial system in 2008, unconventional monetary policy continues and may now become counterproductive with:

- negative rates hurting banks
- investment decisions being distorted (discussed in detail below)
- weak banks and companies being kept alive and non-performing loans (NPLs) not being addressed (delaying the “creative destruction” phase required to restore productivity growth).

The negative interest rates problem

Europe and Japan are growing too slowly and a number of central banks have imposed negative interest rates (the ECB and the central banks of Switzerland, Denmark, Sweden, and Japan). The theory is that this will force banks to do something else other than deposit cash with the central bank, i.e. to lend to the real economy, and it may also help to weaken the exchange rate. While it is always hard to know what would have happened without negative rates, this policy certainly does not appear to be helping a great deal at this stage.

High Quality Liquid Assets (HQLA) are supposed to be at 70% of the ultimate Basel III requirement of the Liquidity Coverage Ratio (LCR) rule from January 2016, and this rises to 100% by 2019. HQLA consist mainly of central bank reserves and sovereign bonds (and a few high-grade corporate bonds and equities). QE has forced up the amount of central bank reserves in bank portfolios (now carrying negative rates) and bond rates in most jurisdictions are also very low or negative. It is hard to see how paying banks a negative return on forced holdings helps the economy through the banking channel.¹⁰ In an environment of weak demand for credit, banks have to offset the negative return on HQLA via higher rates or increased fees for their clients, thereby exacerbating the already weak demand for loans.

The distance-to-default of banks

As if these problems were not enough, it must also be noted that many banks across all regions are also exposed to the fall in oil prices and the potential defaults of borrowers, which could add to the NPL problems noted in Box 1.1. The DTD of banks is falling once more (shown in standard deviations from the default point in Figure 1.10).¹¹

Box 1.1. Hypothetical illustration of the impact of negative interest rates on banks

A stylised example is shown in Figure 1.9. Hypothetical overheads, the loan loss ratio, deposit costs and the leverage ratio are as shown in the chart. HQLA are at 12% of total assets (TA).¹ The two lines show the ROE and interest rate trade-off arithmetic. In the steeper solid grey line the loan rate is considered over a range from 1.5% to 5%, while the rate on HQLA is held constant at -1% per year. In this case only the highest lending rates for banks allow for a positive ROE, i.e. lending rates at greater than 4%. But even at 5% the ROE of 6% would be below the cost of capital. The problem of course is that overheads, deposit funding and loan loss provisions are always there as costs (in the example shown, banks have to make 3.9% on their assets just to break even).

Negative rates on HQLA and weak loan demand work against banks being able to make reasonable returns. In the flatter blue solid line the bank's loan rate is held at the high 4% (e.g. the US prime rate is 3.5% and European rates are typically much lower), while the rate on HQLA starts at minus 1.5% and rises to plus 2% (rising 50 basis points at each interval). Paying more on deposits clearly helps: if -0.5% is paid the ROE breaks even (the bank does not lose money). At a positive return of 1% on HQLA the bank achieves 3.3% and 2%

Box 1.1. Hypothetical illustration of the impact of negative interest rates on banks (cont.)

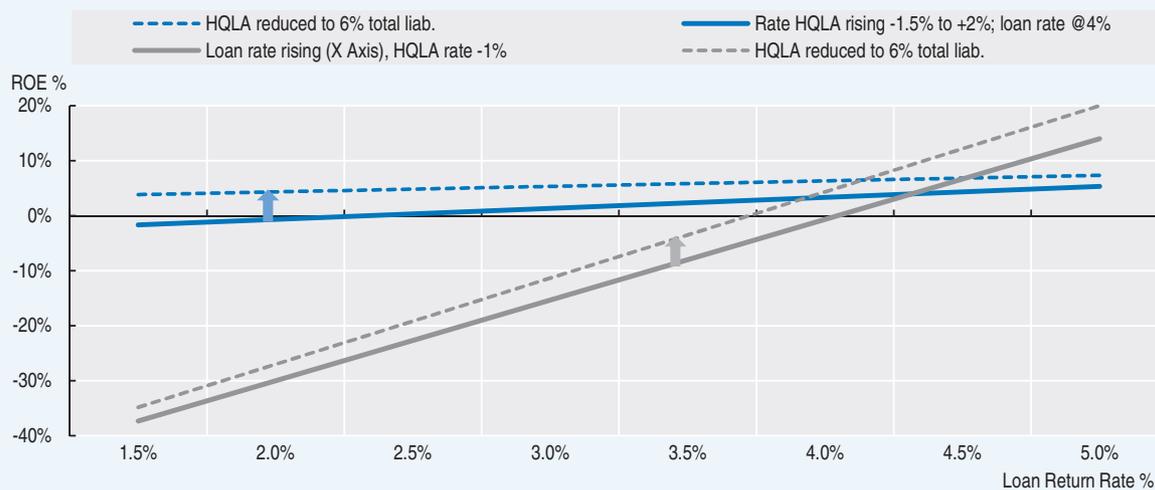
allows an ROE of 5.5% to be earned. Fees are excluded from the calculation but everywhere these are rising (on ATM withdrawals, especially-out-of-network, on overdrafts and for many services) as banks pass on this adverse combination of the LCR and negative interest rates in an environment of weak loan demand.²

Of course the assumption of a loan loss rate of only 1% of TA does not apply to many of the banks in Europe. The 1% of assets would be roughly equivalent to 2% of loans, and this is a gross under-estimate in the case of Europe: the European Parliament recently reported a much higher NPL range based on European Banking Authority (EBA) numbers versus gross loans (e.g. 2.5% for the United Kingdom, 4.2% for France, 6.8% for Spain, 16.9% for Italy, 18.5% for Portugal, 20.6% for Ireland and over 40% for Greece).³ NPLs much higher than 1% of total assets would push all of the curves of Figure 1.9 into negative territory and such banks would need to be resolved to restore the chance of better growth. The use of public money to establish a “bad bank” to deal with NPLs has been constrained by Brussels regulations concerning state aid.

Figure 1.9 also shows the impact of reducing the LCR from 12% to 6%. This acts to offset the impact of negative interest rates and pushes up ROEs as banks would act to minimise their exposures. The regulation may have a good long-term rationale, but it is interacting with negative interest rates in a manner harming the role of banks in promoting recovery. The message would seem to be that negative rates should be removed as quickly as practicable or the LCR reduced and/or the regulatory timetable extended.

1. In a sample of large global banks operating in all major jurisdictions, these assets appear to be higher in the United States (around 15% excluding custody/clearing banks) but lower in European banks (12%) where negative rates apply. This ratio is set to move higher with full implementation. The calibration here based on 12% of total liabilities is roughly consistent with an ECB (2013) conceptual calculation.
2. At a recent OECD meeting the Austrian central bank presented econometric evidence for Europe that showed a systematic negative impact on bank profitability – reported here with permission from the author. See Redak (2016).
3. See European Parliament (2016).

Figure 1.9. Hypothetical bank return on equity trade-offs with negative rate assumptions

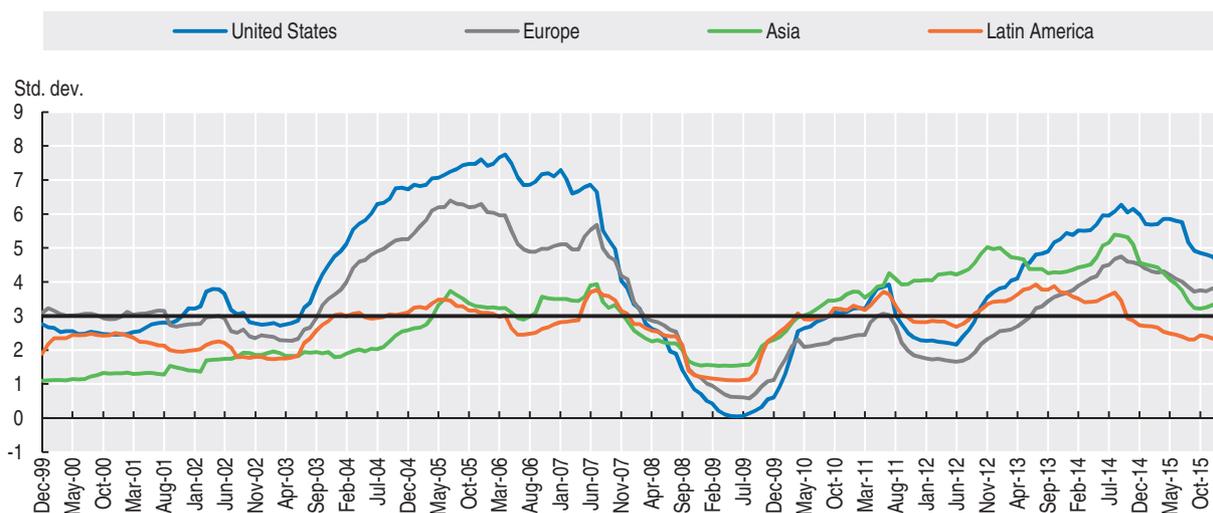


Note: High quality liquid assets (HQLA) = 12% of total assets; O/heads = 1.5% of total assets; Loan loss = 1% of total assets; Leverage ratio = 6%; Deposit rate = 1%.

Source: OECD calculations.

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The average DTD of banks has fallen most in Asia and Latin America. In Asia (where the supercycle reversal is most prevalent) the DTD is back to levels last seen in 2010. In Latin America (also a large resources area) the DTD is at levels last seen in 2009. US banks appear to be the strongest at this point. Nevertheless the situation bears watching closely.

Figure 1.10. **Average distance-to-default (DTD) for large banks, 1998-2016**

Note: Europe refers to the European Union, Norway and Switzerland. The horizontal 3-standard-deviation line represents a minimal level of “safety” based on calibration from previous crises.

Source: OECD calculations, Bloomberg.

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Quantitative easing, negative interest rates and foreign exchange markets

One argument favouring negative interest rates noted earlier might be the hope for a monetary policy transmission mechanism to depreciate the exchange rate. However, the current environment is one where private sector portfolio reactions have become very unpredictable.

Japan announced negative rates in January 2016 and the yen surprisingly rose sharply against the weaker US dollar (see Figure 1.3). In interconnected financial markets (and nowhere is this more the case than in foreign exchange) there are too many moving parts. Negative interest rates may lead to a powerful carry trade, essentially borrowing yen at negative rates and buying the dollar outright. A central bank might buy JGBs in its reserves and swap them into dollar assets. But if the trend in the dollar turns to depreciation, these structures are unwound and can reinforce appreciation of the negative interest rate currency.

Other influences on currencies are simply more important than interest rates: notably economic growth and, more recently, the change by Chinese authorities to manage the currency versus a basket. The Federal Reserve changed its tone at the start of 2016 and appears to have become more worried about the impact on the United States of a reversal of the supercycle in the global economy. This caused the dollar to fall, commodity prices to bounce and flows into emerging economies to stabilise and improve a little. Since the exchange rate is the price of one currency in terms of another it stands to reason that QE could, other things given, lead to depreciation. Hence QE policies in Europe and Japan (implemented to support the economy) could do so via exchange rate depreciation. However, this would not necessarily happen in the changed policy environment of 2016 following the announcement of the Chinese to manage the renminbi versus a currency basket. The depreciation of a large currency would cause the Chinese currency basket to rally and may lead to Chinese responses (discussed in the next section). In the case of the yen market, sources suggest that uncovered investors hurt by the rise in the yen are bringing their investments back home (leading to further upward currency pressure) and some foreign exchange reserves managers have been unwinding carry trade structures.

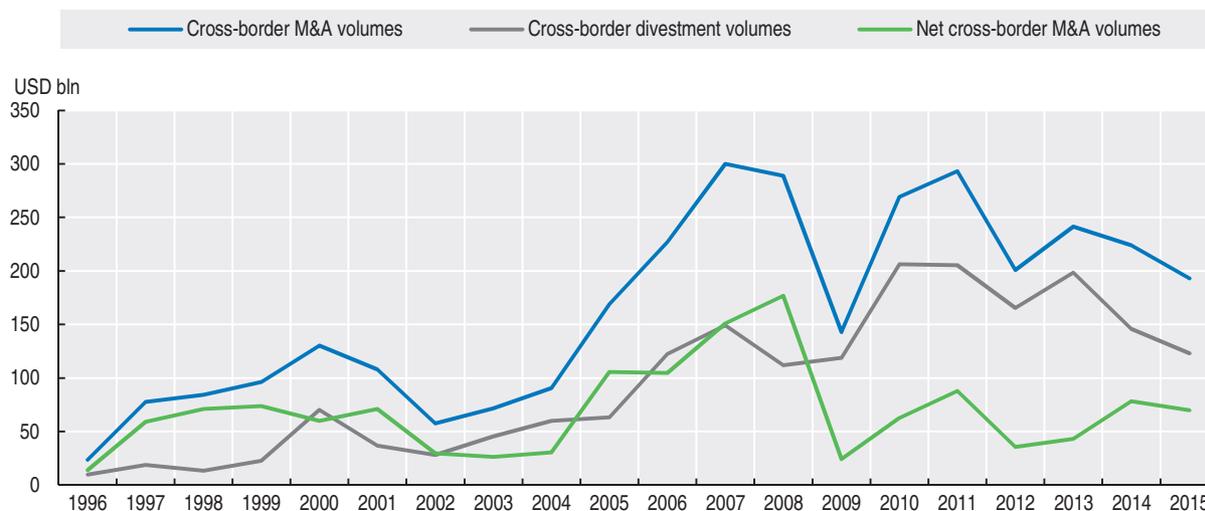
Emerging markets responses to the reversal of the supercycle and the L-shaped recovery, with a focus on China

Underlying real structural problems in emerging economies will continue to affect the business and finance outlook until they are dealt with via reforms affecting the openness of trade and investment, and which promote a greater role for domestic demand and the services sectors. It was noted earlier that this may be a long time in coming due to the low wages share in EME companies and the difficulty of dealing with over-investment issues.

The problem of net outflows from emerging markets

Advanced economy companies have been taking notice of the apparent sharp decline in the ROEs of emerging economy companies compared to their cost of equity by reducing net mergers and acquisitions (M&A) inflows (a key element of foreign direct investment). In the years prior to the crisis, inflows of foreign direct investment had helped underpin exchange rate strength and the need for exchange market intervention to resist upward pressure – particularly in China where foreign exchange reserves built up strongly. Cross-border M&A into emerging economies rose in both gross and net terms up to 2008 and then dipped sharply in 2009 in response to the crisis (Figure 1.11). Cross-border divestment with respect to developing economies, which had anyway begun rising prior to the crisis, accelerated sharply in 2010. This divestment has meant that net inward M&A has not recovered to pre-crisis levels.

Figure 1.11. **Net inward mergers and acquisitions in emerging economies, 1996-2015**

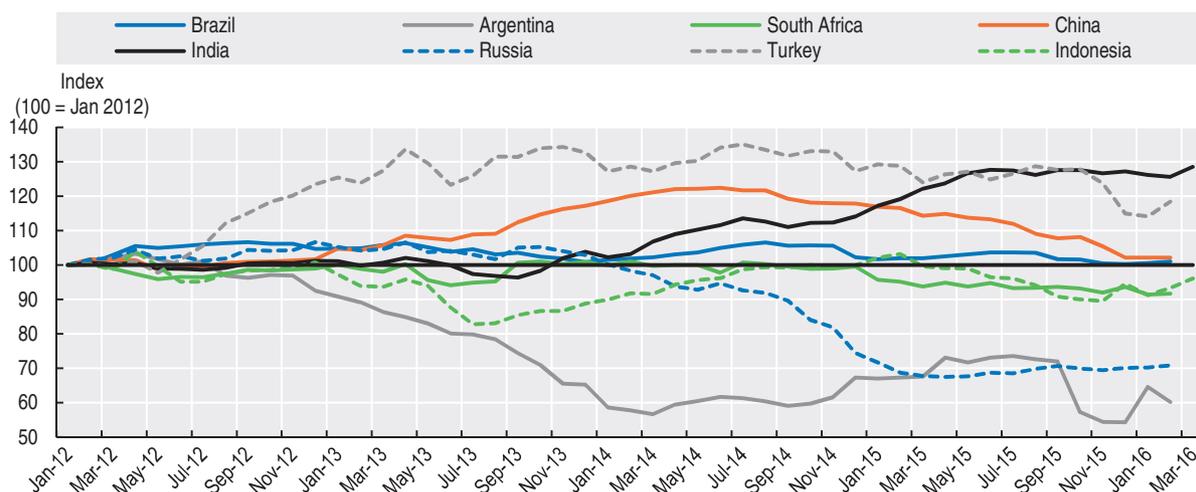


Source: OECD calculations, Dealogic M&A Analytics database.

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Portfolio outflows and exchange rate pressure reversal in EMEs

As the net inward M&A “underpinning” demand for emerging assets declined in a structural sense, cross-border portfolio outflows actually accelerated from some countries in 2015 due to fear of portfolio losses (overvalued supercycle assets and currency translation losses) as the expectation of Federal Reserve tightening and resulting exchange rate pressures mounted. Figure 1.12 shows indexes of international reserves since the supercycle reversal began (equal to 100 in January 2012). Countries losing reserves (where the index in the chart begins to turn downwards) are in large part associated with portfolio outflows and attempts to resist a fall of the currency (for example: China, Turkey, Russia, and Argentina).

Figure 1.12. **International reserves in emerging economies, 2012-16**

Source: OECD calculations, Thomson Reuters Datastream.

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These stabilised in early 2016 as the Federal Reserve commentary about tightening was perceived in markets to be more “dovish”. Market sources suggest this calmed concerns and actually helped to increase the portfolio demand for emerging assets in March 2016. This could yet prove to be premature.

The Chinese foreign exchange market

In China the non-deliverable forward (NDF) market operates mostly in Hong Kong, China.¹² An offshore renminbi market developed after the crisis because of dollar shortages: the market was encouraged by the authorities, and an overnight interbank market and a fledgling market of longer duration securities (“dim sum” bonds and similar instruments) developed. This market is traded and the renminbi is fully convertible offshore. The idea was that importers could find dollars in the offshore traded market.

Unfortunately, a number of events in China came together to cause selling in its financial markets and outflow pressure on the foreign exchange market in 2015 and early 2016. These events included:

- The end of the supercycle and falling company investment due to declining returns on equity versus the cost of capital.
- Extreme equity market overvaluation and volatility.¹³
- A crackdown on corruption amongst the elite.
- A move to liberalise the foreign exchange market including convertibility of the renminbi (stimulated by the desire to enter the IMF SDR basket) which could see the currency fall further (investors want to get out at better levels).

These factors resulted in a desire by residents and companies to try to get money out via Hong Kong, China – this would normally have led to market arbitrage as the offshore rate diverges from the onshore one, and the renminbi would fall more quickly. China did not want this to happen and so market intelligence suggests it intervened in the market – both the official onshore market and the offshore spot and NDF market.

The targeted exchange rate is now a basket of currencies and not just the US dollar. China carries out its offshore intervention by using private financial institutions that

participate in those offshore markets and trade on behalf of China. To help stem the pressure, China has imposed various additional controls on outflows in the last couple of months of 2015. These include:

- Suspending the right of onshore foreign banks to participate in the offshore market (DBS, Standard Chartered, and Deutsche Bank).
- Limiting the amounts individuals and companies can transfer.
- Insisting on more screening by banks to ensure that amounts above USD 50 000 are genuinely for the purposes of importing goods into China.
- Suspending the structural reform process related to the currency.

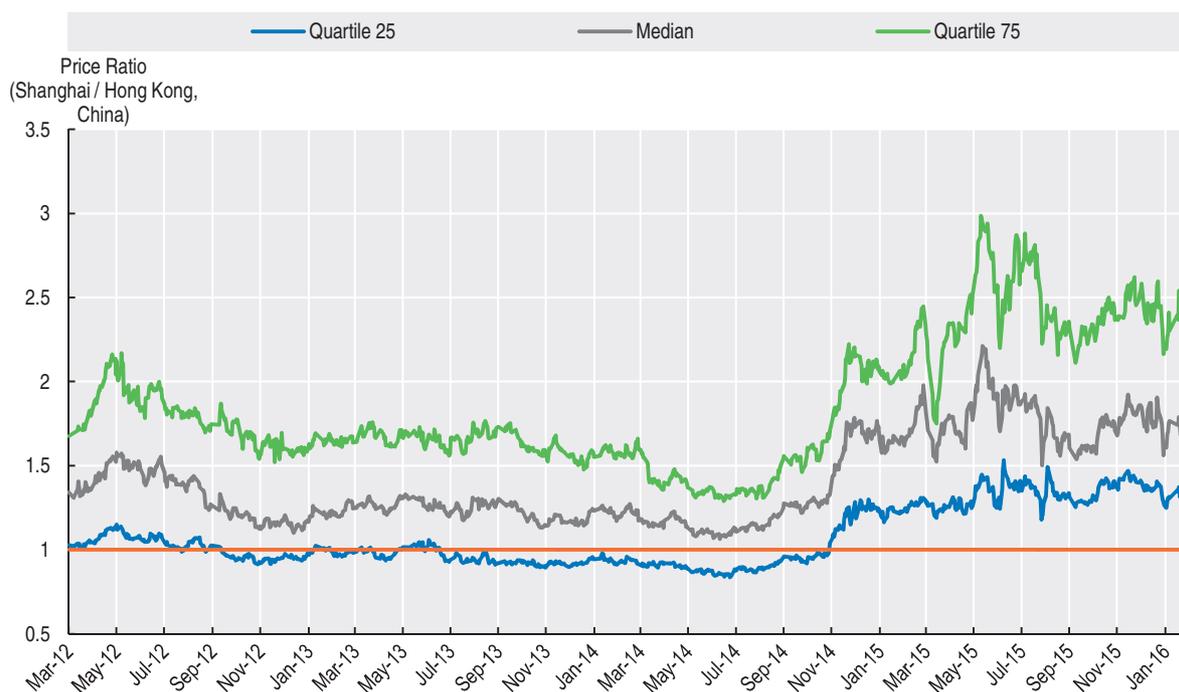
At the same time that it is imposing outflow controls, China is liberalising measures affecting capital inflows (to try to offset the outflow pressure). In particular, it has abolished bond investment quotas on qualified foreign institutional investors (including insurance companies, pension funds, commercial banks, endowment funds, and mutual funds). The strategy has led to increased volatility: the spread between the onshore and offshore markets is large at times and reserve loss has been quite significant. On 12 January 2016, their intervention in the offshore market completely drained renminbi in the (relatively small) market and pushed the overnight rate to over 60%.

Complicating quantitative easing strategies in Europe and Japan

The announcement in December 2015 that policy is now focused on a basket of currencies and less so on the US dollar will enable the authorities to decouple monetary policy from the US tightening process – should that process continue in 2016.¹⁴ With regard to other major currencies this approach complicates things. For example, if the European Central Bank (ECB) or the Bank of Japan (BoJ) used QE in 2016 and beyond, the currency might behave very differently compared to the period prior to the new Chinese exchange rate management regime. Whereas QE might have affected the exchange rate in the direction of depreciation prior to 2016, under the new regime the *ex ante* pressure to appreciate the basket will lead to a Chinese policy response to manage the basket. There appear to be two choices in this respect: the renminbi could be depreciated versus the dollar to stabilise the basket; or the Chinese could intervene in the cross rates (e.g. sell dollars to buy yen or euro to offset the quantitative easing policy effects). The latter approach has advantages in the near term, since China has large corporate debts in US dollars and HK dollars. Some of the outflows early in the year have been Chinese corporates repaying these foreign currency debts, so that depreciating the renminbi versus the dollar before this is done makes less sense.

The Chinese stock market

In the stock market, wealthy individuals and companies would like to sell some of their stock and transfer money to the Hong Kong, China market before exchange rates deteriorate further. To prevent confidence being dented by a collapse in prices, the authorities have been using official funds to prop up the Shanghai stock market. This, together with cross-border controls, has led to huge discrepancies between the prices of the same stocks listed in both Shanghai and Hong Kong, China in the same currency. The median of the daily stock price divergence of 69 such companies, shown in Figure 1.13, is volatile, and there has always been a risk premium for the Chinese listings. These premiums took a severe jump upwards in 2015 (from a 25% median premium to 75%) with considerable differences amongst the stocks included.

Figure 1.13. **Shanghai and Hong Kong, China price ratio for 69 dual-listed stocks, 2012-16**

Source: OECD calculations, Bloomberg.

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China monetary policy and spending responses

China has responded to the sharp slowing in the economy via credit and fiscal expansion (in the areas of housing and infrastructure). Fixed asset investment is still running at over 10% p.a. (double the stated GDP growth so that it is rising as a share of GDP). While China's medium-term plan is to move towards a greater consumption and services-driven growth model, bold structural reforms are likely to be delayed due to the slowdown: the internationalisation of the renminbi has already been halted somewhat; key internal prices remain distorted (e.g. as in Figure 1.13); and Chinese industrial policy, which heavily involves the role of the state, has contributed to global excess capacity (particularly in energy, steel, other materials sectors, construction and solar photovoltaic, and automobiles) and will take time to move to a different modus operandi.¹⁵

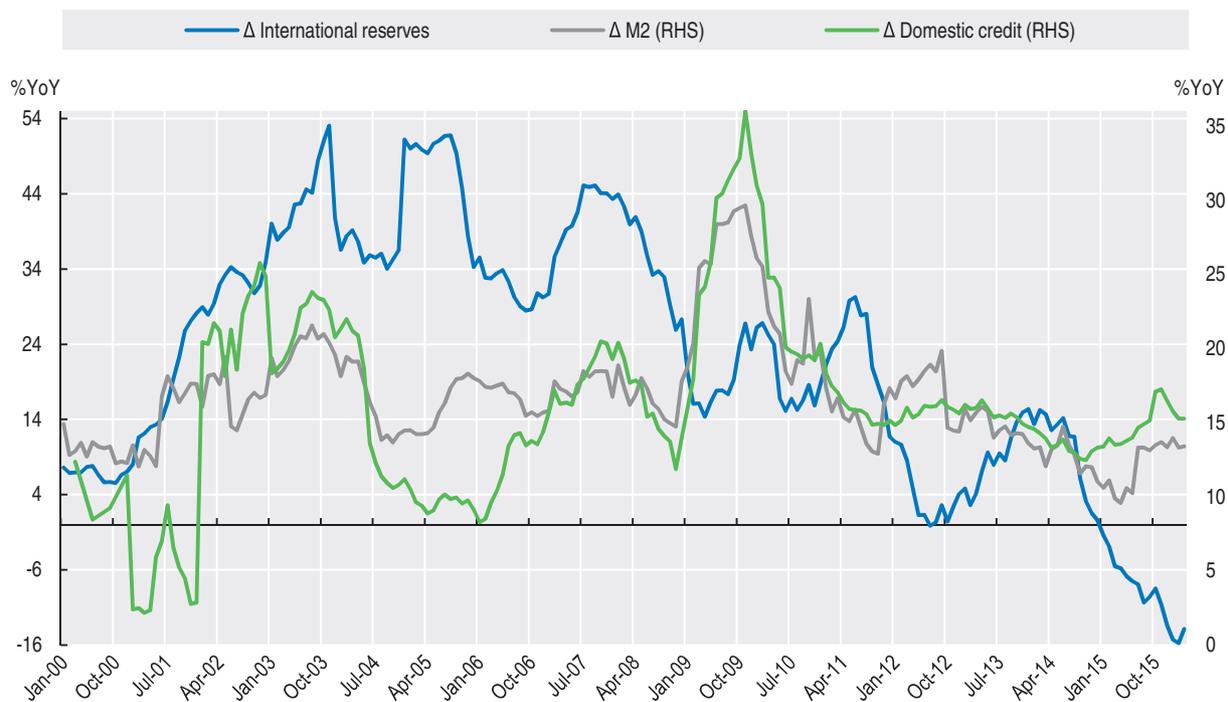
Dealing with excess capacity sectors requires a “creative destruction” phase: closing down old industries and then building new ones guided by market signals and with a lesser role of the state. But major reform now would risk slowing the economy further. Faced with this challenge, the People's Bank of China (PBOC) is stepping in (as central banks are also doing in the United States, Japan and Europe).

As international reserves have fallen, domestic credit expansion and liquidity policies have been turned on via reduced bank reserve ratios, interest rate cuts and other measures.¹⁶

The China Development Bank (CDB) is continuing to play an important role in debt-funded public spending in 2016, and has accelerated lending versus 2015. The focus for 2016 is on shantytown redevelopment (RMB 950 billion, up 26% from last year), and a continuation of lending to railways (RMB 100 billion), water conservation (RMB 65 billion)

and industrial upgrading (RMB 180 billion). The PBOC has loaned significant sums to the China Development Bank via the relending facility for these projects in recent years, creating claims on the CDB. These are equivalent to claims on the government. Market sources suggest the PBOC could lend out claims on the CDB to other banks in worse shape (for a spread) improving their liquidity since they could use the CDB claim for collateral for their own borrowing. The money supply and domestic credit growth shown in Figure 1.14 is accelerating.

Figure 1.14. **M2, international reserves and domestic credit in China, 2000-16**



Source: OECD calculations, Thomson Reuters Datastream.

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The problem with these approaches is that structural reform has not yet been carried through and will likely take a long time. This may mean that policies in response to the current crisis will not be sufficiently different from 2009, which exacerbated the excess capacity situation and worsened credit problems in China.

Other emerging market economies' responses

Other emerging markets have also eased monetary policy by cutting interest rates to ensure that they do not lose competitiveness (e.g. India, Indonesia, Chinese Taipei, Turkey and Hungary). Singapore, which manages its currency versus an effective exchange rate basket, set the appreciation band to zero in April (from a previous undisclosed rising appreciation band). Some countries have also stepped up the extent to which they use capital flow measures. OECD research suggests that these measures are quite closely linked with reducing pressure on foreign reserves in the exchange rate management process, but are not particularly efficient at affecting variables associated with financial stability when macro-prudential explanations are offered for their use.¹⁷

Perverse incentives for investors created by monetary policy

Investors have been herded into concentrated trades, many of which are illiquid, and recent volatility reflects periodic attempts to exit them – particularly when there is any hint of a withdrawal of the monetary policy “morphine” to which they have become addicted. Financial fragility means that central banks will embark upon the normalisation of interest rates only very slowly and the outlook for the next year or two in financial markets is one of choppiness about trend modest returns, with persistent risks of extreme volatility.

Markets have had a way of forcing required policy adjustments in non-performing economies, forcing them to deal with problems like inflation, fiscal deficits and external crises. The problem here, however, is that over-investment and falling returns are located in countries that are less market oriented – this interference with markets relays pressure elsewhere. This is playing out with advanced-economy central banks taking on the results of intersecting global and domestic issues, while the reaction of some key emerging economies has been to move even further away from market forces.

Quantitative easing and low-interest-rate monetary policy can do little to correct over-investment in global industrial sectors and may be combining with regulatory factors to hurt banks in some advanced economies. These policies have also created incentives for investors that may portend problems for the future. Very low rates have created a demand for a kind of portfolio barbell: to match large allocations to private equity and low-cost exchange-traded funds (ETFs) at one end, with a greater demand for capital market risk assets based on leverage that pay higher short-term carry/cash flows (e.g. hedge and absolute return funds, etc.) at the other end.¹⁸ In between is an allocation to equities and bonds within which further herding of investors into concentrated positions is found: in high-yield non-investment grade bonds; and in equities that focus on providing strong dividends and buybacks.

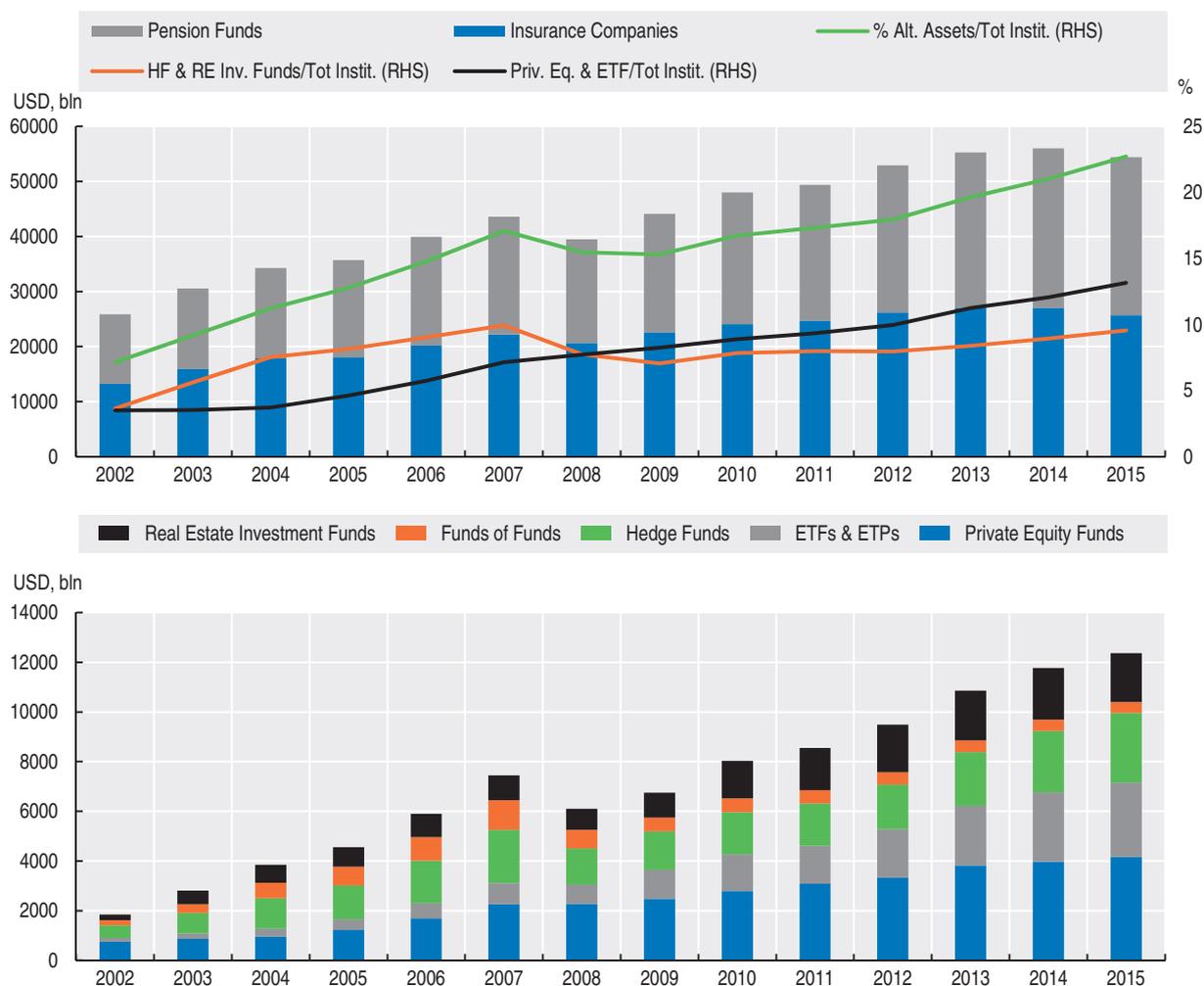
Barbell of private equity and exchange-traded funds versus cash generating funds

Private equity has been one of the main ways that investors have responded to the low-interest-rate and low-growth environment. A “time premium” has been given to private equity funds because they specialise in realising long-term risk premiums. One problem with mutual fund managers is that fees are high while cash rates are very low. This has led to the strong growth of ETFs which give exposure to assets of the investor’s choice for very low fees. ETFs allow investors to gain exposure to higher-return but less liquid underlying assets, while the ETF shares promise daily liquidity.¹⁹ In Figure 1.15, the alternative assets shown have risen since the crisis to an amount equal to 23% of the size of pension fund and insurance company assets,²⁰ with private equity and ETFs making up 13 percentage points of this.

Hedge funds and real estate investment funds tracked by the OECD are equivalent to 10% of institutional investor funds under management. Hedge funds promise absolute returns benchmarked against cash. Real estate investment funds pay higher yields. Underlying assets may, however, be more illiquid than clients would expect in a strong redemption demand situation.

Private equity valuations have been stellar (driven by inflows) and they may be rich when compared to what underlying investments might deliver in the current slow growth environment. This is one of the most illiquid asset classes and it is not clear how investors would fare if redemption demand strengthened. Similar comments apply to closed-end ETFs.

Figure 1.15. **Alternative assets and pension and insurance company funds under management, 2002-15**



Note: 2015 estimates for pension funds, insurance companies and real estate funds' total assets.

Source: FSB Global Shadow Banking Monitoring Report 2015, 2016 Preqin Global Private Equity Report, 2016 ETFGI monthly newsletter, BarclayHedge.

StatLink  <http://dx.doi.org/10.1787/888933362256>

These products offer daily liquidity while often referencing illiquid underlying securities. In the period of high market volatility in August 2015 strong selling from closed-end funds such as ETFs was a factor. With ETFs there are two market levels – that for the traded ETF shares, where the normal buying and selling just transfers the underlying securities without selling them on the open market, and the market for the underlying basket of securities. In August 2015 the discounts (to the underlying basket) to get out of ETFs were steep. When one-way selling emerges, the ETF providers are supposed to redeem ETF shares to arbitrage the difference between the ETF value and the underlying stocks and bonds. In August, the providers did not on average redeem ETF shares and sell the underlying. They apparently judged that selling the underlying illiquid securities would not have resulted in arbitrage profit, raising the question of what would happen in a more sustained crisis without monetary policy “morphine”.

The transformation of traditional bond and equity holdings

In between the barbell of alternative assets sits equity and fixed income. These, too, have shifted with consequences for future economic performance. Figure 1.16 is drawn from the OECD database of all corporate bonds. The top panel shows the annual issuance of all bonds, 11 ratings of non-investment grade C to BB+, and 10 ratings of investment grade BBB- to AAA.

Figure 1.16. **Corporate bond issuance and declining quality, 2000-15**



Note: There are eleven non-investment grade categories: five from C, C to CCC+; and six from B, B- to BB+. There are ten investment grade categories: three from B, BBB- to BBB+; and seven from A, A- to AAA. This index is weighted as one for C, two for CC and rising to twenty one for AAA. A fall in the index indicates declining quality.

Source: OECD calculations, Thomson Reuters, Bloomberg.

StatLink  <http://dx.doi.org/10.1787/888933362266>

An index is constructed weighted by the rating (see the note to Figure 1.16) showing a sharp 20% decline from 2008 when unconventional monetary policies began. In the bottom panel it can be seen that from around 14% of all issuance in 2000, non-investment grade bonds and low quality investment grade bonds rose to 42% of the total issuance by 2015.

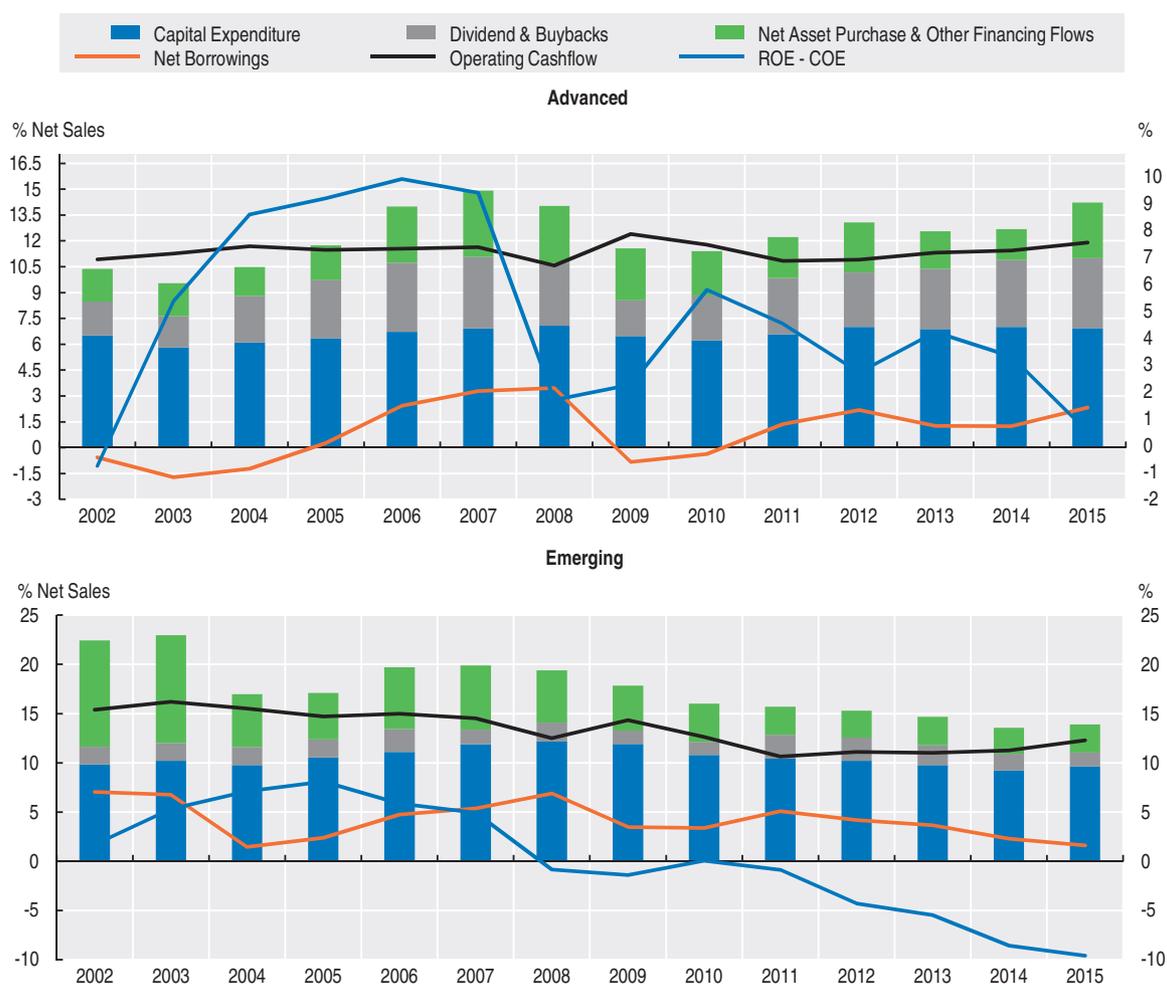
These issuance trends respond to the demand for investors caused by low-interest-rate policies. High-yield debt is much more susceptible to liquidity squeezes than listed equity.

Rollover risk is rising, and more asset class flight from local corporate emerging market debt is likely to be coming. There has been a superhighway into high-yield emerging market debt on the way in, but it is not a dual carriageway, and the market could evaporate if faced with a desire on the part of investors to get out at some point in the future. The primary markets for junk bonds have already begun to close, and the secondary markets may well follow.

Flat capital spending and the demand for dividends and buybacks

The OECD has examined in great detail the investment and financial behaviour of 11 000 of the world's biggest listed companies across 75 economies. Figure 1.17 shows a summary picture of their corporate finance activity (expressed as a share of net sales). Company operating cash flow and net borrowing, shown in the lines, fund the elements in the bars: i.e. capital expenditure, dividends and buybacks and other net accumulation of assets. The return on equity (ROE) less its cost (COE) is also shown (using the right-hand axis).²¹ If the ROE less the COE is low or negative, investors would prefer not to have their earnings retained for capital expenditure and instead returned to them as cash for reallocation to consumption or other investments (including the leveraged alternative investments referred to earlier).

Figure 1.17. Return on equity (ROE), capital costs and interest rates, 2002-15



Source: OECD calculations, Bloomberg.

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Some observations are worth noting:

- Capital expenditure of companies as a share of net sales has been flat in advanced economy companies since 2008. While not shown in Figure 1.17, the value added of these companies per employee has also not risen (the productivity problem which is discussed in detail in Chapter 2).
- Dividends and buybacks have been rising in advanced economies since the crisis and have reached about 60% of what companies spend on investment. Advanced economy companies could raise this investment very easily without any need for external finance – but they do not do this. Investors resist companies that want to use earnings to invest for the long term, and they demand cash-like returns that are better than those available in actual cash and investment grade bond markets. This works against companies wanting to take on long-run projects needed to promote innovation and productivity – they would be punished by investors for doing so. This is a direct result of attributing a zero time value to money via low interest rates.
- Dividends and buybacks are less in emerging markets due to the state-driven investment process. The return on equity in emerging markets is far below its cost, a sure reflection of excess capacity (in sectors like steel, energy, other materials, automobiles and the like). Investment is still running at double the rate in advanced economies (around 10% of net sales). But it is capital-widening investment in the main, using existing technology, often as a part of global value chains. As in advanced economies, productivity is not rising in emerging market companies.

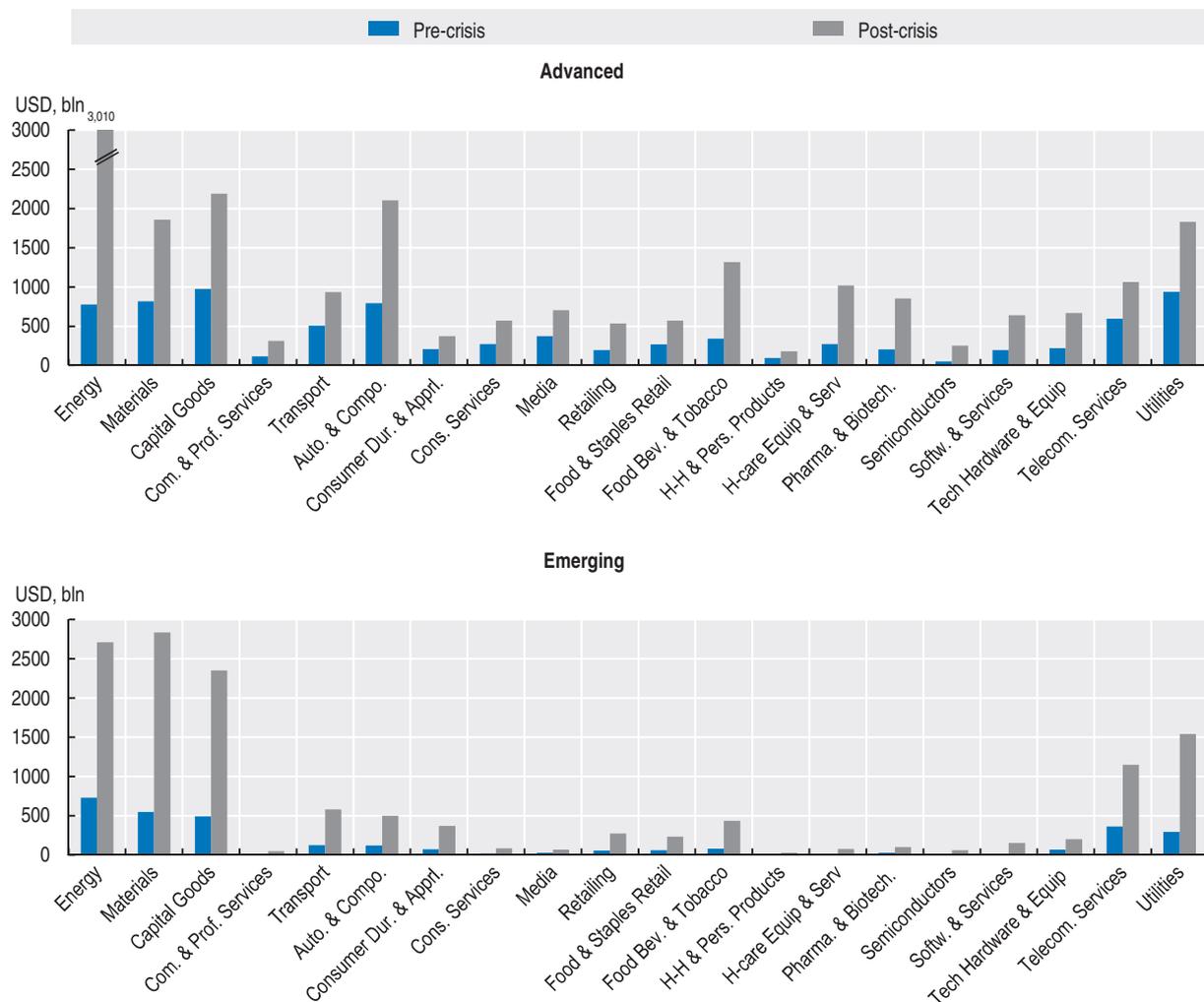
Concentrated sector borrowing

A counterpart of the world becoming more dependent on energy and materials sector investment in the 2000s, has been a sharp increase in borrowing concentrated in these two sectors. In the OECD 11 000 company database, energy sector debt issuance on average tripled in both advanced and emerging economies in the post- versus the pre-crisis period (Figure 1.18). The materials sector debt issuance doubled in advanced economies and rose by an even more impressive four times in EMEs. Of the total debt of USD 3.1 trillion issued by emerging market companies in the post-crisis period, 40% resides in the energy and materials sectors. Of the total debt of USD 16.8 trillion issued by advanced economy companies in the post-crisis period, 23% resides in the energy and materials sectors.

Debt issued by emerging economy companies is not well diversified across sectors. Of the companies studied, 77% of the debt issued comes from just five of the 20 sectors considered. These sectors are precisely those that are most subject to falling commodity prices and the risk of company defaults. Falling commodity prices and debt concentrated in these sectors is likely to add financial headwinds to growth: there are always financial consequences to over-investment.

The “lift-off” issue for monetary policy in advanced economies

Policy needs to restore “animal spirits” in the company sector by dealing with the global misallocation of resources and excess capacity and by creating incentives for long-term risk taking. When “animal spirits” recover to the point where “true” risk assets are desired in the company sector, and investors are willing to forego short-term income for long-term capital gain, there will be a significant asset allocation shift. Capital will move from cash return and leveraged instruments to growth investments simultaneously within and across all asset classes. This “lift-off” would lead to the end of secular stagnation. But how could this happen?

Figure 1.18. **Long-term debt issuance by companies, pre-crisis versus post-crisis**

Note: Pre-crisis: 2002-07; post-crisis: 2008-15.

Source: OECD calculations, Bloomberg.

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“Inflation first” policies will delay a sustainable “lift-off” in rates

In the unlikely event that inflation comes first – say because unconventional monetary policy in advanced economies and credit expansion in emerging markets are not supported by measures to deal with structural problems – the outlook would not be too encouraging. Central banks would be obliged to lift interest rates in response to inflation, while growth of capital-widening investment using existing technology in the near term would raise global supply without lifting productivity growth. This is what happened in some emerging economies in response to the 2008 crisis. Any success would be short-lived now just as it was then. The needed “creative destruction” phase on the supply side would not happen. Just as some policies after the crisis worsened the excess capacity problems and increased debt, the lack of structural adjustment now and the actual emergence of inflation would ultimately cause the lift-off in interest rates to turn into a two-step process.

Near zero interest rates allow companies to carry excess debt, to borrow cheaply, to carry out buybacks and to engage in unproductive investments that are based on a distorted cost of

capital while waiting for the tide of aggregate demand to rise. The global output gap will never close in a sustainable manner while the outstanding stock of unproductive and misallocated investment remains in place. Rising interest rates under an “inflation first” scenario would risk another financial crisis. The need for shedding excess capacity and debt would once more become a priority. If a healthy “creative destruction” phase ensued, as higher interest rates confronted companies with a realistic cost of capital and as structural policies were implemented in advanced and emerging economies on the scale required, then the scene would then be set to have more sustainable growth and normalised interest rates later on.

A “productivity first” corporate scenario

Rather than inflation first, it would be desirable to have a productivity first scenario. Such a scenario is not encouraged at all by making the time value of money zero – monetary policy is not the instrument needed at this point in time. But what policies would actually address the productivity problem in the company sector? To answer this question requires better knowledge of what is happening in the corporate world. In studying the 11 000 (non-financial and non-real estate) companies in the next chapter, some very interesting facts emerge about those that have succeeded and those that have failed since the crisis. These facts point the way to policies that might actually work.

Prior to the crisis, there was a group of high-productivity level companies (sometimes referred to as being on the “frontier”), and a very long string of low-productivity level companies that appeared not to be sharing in technology and growth.²² The crisis shook up everything and led to two distinct groups of high-productivity companies in the post-2008 period: those in the high-level productivity group that remained there, but whose growth in productivity has been *negative* (i.e. they are losing their shine); and, at the other extreme, a separate group that has had *rapid* productivity growth. In between these two groups sits the majority of companies with both lower productivity levels and only moderate growth.

The group exhibiting both high levels of productivity and high growth shows all the signs of having been through a “creative destruction” phase: shedding businesses and locations that are not working in the tougher post-crisis environment while acquiring others that are more synergistic with their goals. However, there are simply not nearly enough of these companies.

The following productivity chapter looks at the financial decisions that those dynamic “creative destruction” companies took to succeed in the post-crisis environment – focusing only on those where true one-way causality could be established. These companies had four key interrelated corporate finance characteristics that investors need to take note of:

- They expensed much more on research and development (R&D) than other companies, which in turn requires risk taking and a long-term focus critical to the innovation process.
- They did not increase borrowing compared to equity in the post-crisis period (while those that did were in the low productivity groups). An equity focus enabled the successful firms to focus on longer-term goals instead of altering their business model to try to generate more short-term cash to meet debt obligations.
- These same high-productivity companies had a buffer of free cash flow: i.e. their operating cash flow was in excess of that needed for capital expenditure. Such companies can maintain a focus on long-term goals in the face of short-term disruptions.
- Those that succeeded used M&A (buying and selling business segments) to rationalise what they were doing in the tougher more competitive post-crisis environment.

Looking through the lens of what companies need to benefit from these four success factors, the following sets of policies discussed in more detail in the next chapter, if implemented, would create an environment where investors could become more optimistic and would permit interest rates to rise without negative consequences for markets:

- *With respect to R&D*: improved R&D fiscal incentives (the issue of designing tax incentives for R&D that are consistent with broader tax policy efficiency is taken up in full in Chapter 3).
- *With respect to equity finance instead of debt*: the removal of tax incentives that favour debt over equity and the simplification of equity listing rules that increase costs relative to private equity. Other equity market reforms that encourage initial public offerings are also considered (see also Chapters 3 and 4).
- *With respect to increased free cash flow*: crucial for a strong uplift of “animal spirits” are: more open trade and investment regimes between countries; breaking down competitive barriers to entry often granted by government rules and regulations; more flexible labour market rules to allow companies to manage their cash flow when setbacks occur; recapitalising banks, dealing with their NPL problems and getting the nexus right between regulations and negative interest rates; and encouraging lower-cost non-bank finance.
- *With respect to M&A activity*: breaking down cultural and regulatory barriers to cross-border M&A.

The near-term financial markets outlook

Unfortunately structural reform on the scale required is unlikely in the near term. This means that “creative destruction” and a “lift-off” in rates is postponed. Central banks are most likely to continue with low interest rates and the quantitative easing approach. It is not the best environment to be raising interest rates and yet low rates delay the “creative destruction” phase.

It is difficult to convince governments that the only choice is incremental-but-persistent “creative destruction” when they are faced with unemployment – particularly in more rigid, less market-oriented economies. Adding to the current stock of debt and supporting the current “portfolio shift” towards illiquid securities and herding into crowded trades that favour higher yields (even when leverage is required) does nothing to bring us closer to a bull market “lift-off” in interest rates. It does increase the probability of a scenario where another setback in growth and markets will be required to bring about the right mix of policy later on.

Some near-term financial implications are:

- The zero or negative time value of money will continue to work against long-term risk taking in the real economy (as opposed to financial risk taking via leveraged speculation).
- The delay in the ending of unconventional monetary policy will lead to further easing in emerging markets and related exchange rates distortions.
- Exchange rate battles will continue: net negative terms of trade shocks will remain in play for commodity exporters encouraging them to ease monetary policy and lower exchange rates. As other countries will not want to lose competitiveness, they too will bias their own monetary policy in the same direction (and possibly blunting positive terms-of-trade shocks for commodity-importing countries that succeed in keeping their exchange rate lower).
- Renewed emerging market portfolio outflows if Federal Reserve confidence in tightening resumes, may lead other emerging markets to follow China and impose cross-border controls. This would be to enable them to keep monetary policy easier than otherwise

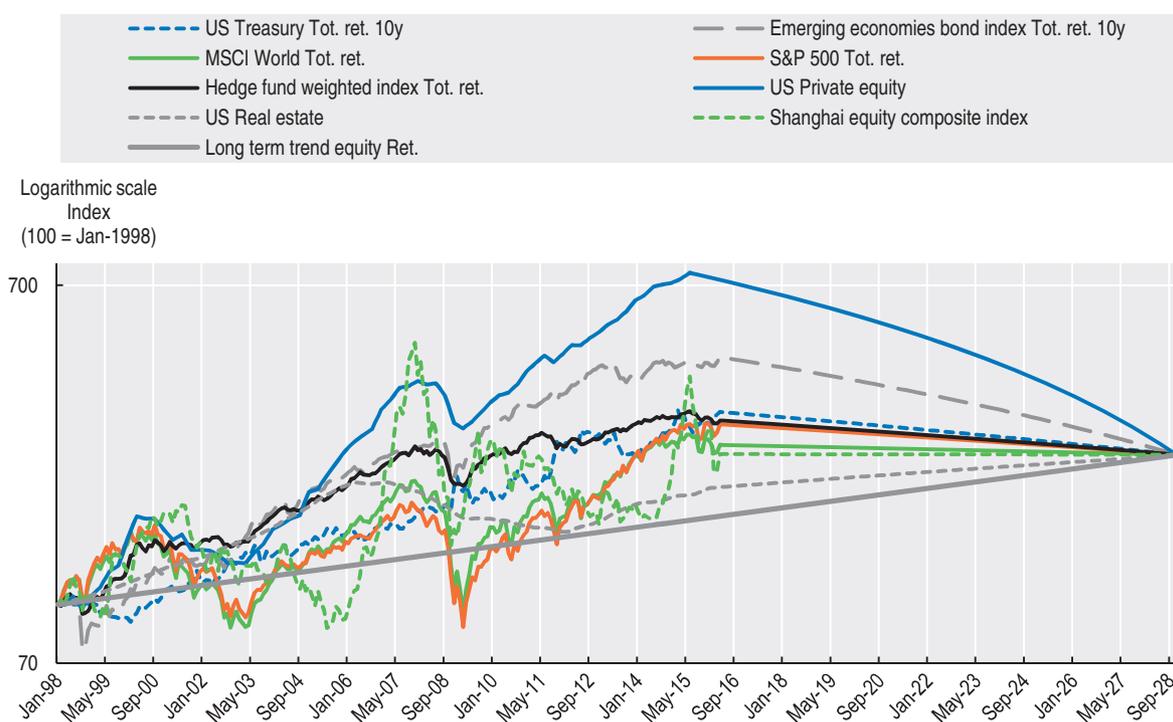
and to decouple from any United States tightening – particularly those that are losing the most reserves.

- The tendency for weakening currencies versus the dollar and easier monetary policy outside of the United States will likely mean United States policy too will err on the side of a drawn out tightening cycle. With no clear policy direction, choppy markets will remain.
- Stress in high-yield energy company debt including outside of emerging markets.
- Slow growth and exposure to the energy sector will continue to put pressure on bank stocks for those that do not have enough capital (in the simple leverage ratio sense).

This choppy and uncertain market environment will, at some point, require resolution. If the markets decide (incorrectly) that monetary ease is a solution to real structural problems, then an unsustainable rally is certainly always feasible. But financial markets will have to behave in a way that forces structural policies and required “creative destruction” in the end. In the long-run this cannot be bullish for securities.

Figure 1.19 shows selected financial prices over the supercycle period from January 1998 to the present.

Figure 1.19. **The evolution of selected financial prices, 1998-2030**



Source: OECD calculations, Thomson Reuters Datastream.

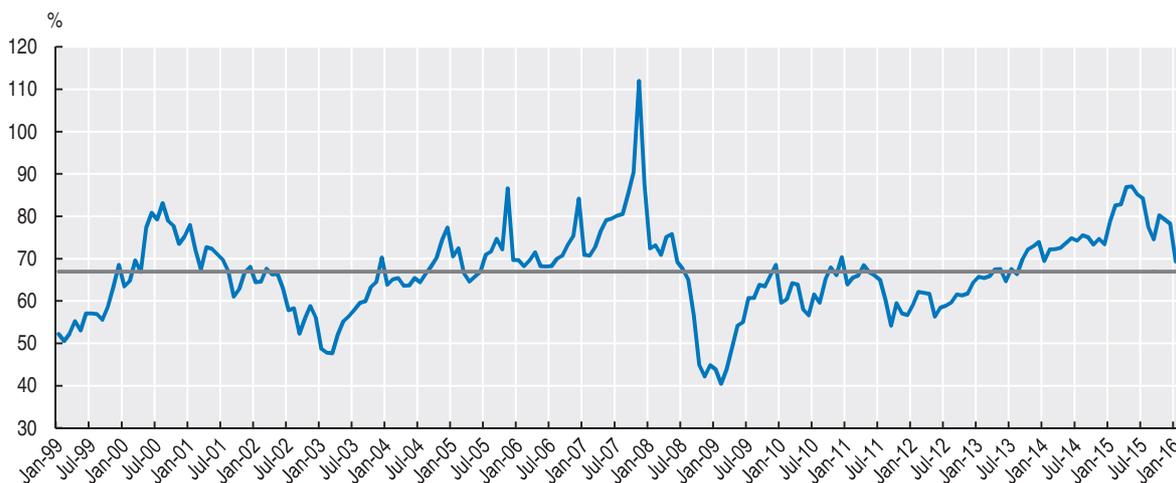
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The thick grey trend line is based on a portfolio of 50% equity and 50% 10-year bonds in the United States using the average return for the past 96 years of data. The real return is 2.6% over that long period and, allowing for 1% inflation going forward, implies a 3.6% nominal return – this return is pushed out 15 years to 2030. All financial prices are currently well above this trend-line due to the world-wide monetary ease response to excess capacity and the lack of structural adjustment. Equity markets are the least out of

line. Unfortunately most of the other markets are far less liquid than listed equities. There is likely to be illiquidity-related volatility in some of these markets. This volatility will be greater if markets, in the end, have to force structural adjustment and it would be much less with a “productivity first” scenario.

The equity market in 2015 had been discounting a very negative scenario for the global economy and then corrected. Figure 1.20 shows an OECD indicator of equity market valuation. While it is unfair to compare the market value of listed stocks in an individual economy to that country’s GDP as a valuation tool, since with global value chains earnings may come from any part of the world, this cannot be a problem for all stock exchanges together when compared to world GDP. In late 2014 and the first half of 2015, global equity markets together reached levels which have previously been associated with corrections. In the second half of 2015 and early 2016, the correction in equity markets brought values back into line with the historical valuation average. The markets appeared to stabilise at this level, and then began to rally again without moving into the “cheap” region. It is inconceivable that the market can sustainably rally on easy monetary policy alone. World GDP led by productivity will need to move up with the equity market – this will require the structural policies discussed in this and following chapters.

Figure 1.20. **Global market capitalisation versus world GDP, 1999-2016**



Source: OECD calculations, World Federation of Stock Exchanges, Thomson Reuters Datastream.

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Notes

1. This theme is developed in full in OECD (2015a).
2. Handy Size (15 000-35 000 tonnes); Supramax (45 000-59 000 tonnes), Panamax (60 000-80 000 tonnes) and Capesize (100 000 tonnes). Capesize carry about 62% of the trade.
3. Large numbers of ships were built on the basis of the needs of the supercycle, and many of these now lie idle.
4. Figures for capital expenditure include depreciation. The sectors where capital expenditure is well in excess of depreciation include the supercycle-related sectors: energy, materials, utilities, and capital goods and transport.
5. See data appendix of Chapter 2 for definitions.

6. The European Chamber of Commerce (2016) publishes estimates of excess capacity in eight severely affected sectors: steel, aluminium, cement, chemicals, refining, flat glass, shipbuilding, and paper and paper board.
7. See McKinsey and Company (2011) who predicted that ROEs would fall from 20% pre-crisis to 7% post crisis, roughly in line with their cost of equity.
8. See Warren (2105), for example.
9. See Blundell-Wignall and Atkinson (2010) for example.
10. In order to minimise this disincentive, Japan has introduced a 3-tier system whereby most of the bank reserves held at the central bank still receive a small positive interest rate and the increased portion of reserves due to QE continues to have a zero interest rate. Japanese banks have already met the 100% ultimate LCR requirement.
11. See Blundell-Wignall and Roulet (2013) for a definition of the DTD. The horizontal 3-standard-deviation line is shown because, historically, banks with a DTD above 3 prior to a crisis managed not to default.
12. These markets arise when currencies are not convertible and/or where extreme capital flow measures are used – they trade in US dollars as a parallel market.
13. Wealthy individuals, according to market intelligence, have participated in syndicates that ramp up equity markets and then sell to less sophisticated investors as they are drawn into the market.
14. The weights at the time of writing are US dollar 26.4%, euro 21.4%, Japanese yen 14.7%, HK dollar 6.6%, Australian dollar 6.3%, Malaysian Ringgit 4.7%, rouble 4.4%, sterling 3.9%, Singapore dollar 3.8%, Thai Bart 3.3%, Canadian dollar, 2.5%, Swiss franc 1.5% and NZ \$ 0.7%.
15. This process led to duplication and excess capacity in the supercycle sectors discussed elsewhere in this Outlook. Political connections are important, and once local champions become too big to fail exit strategies become problematic. Historically, an unintended adverse consequence is that companies listed on the New York Stock exchange with better technologies have been forced into bankruptcy while local companies supported by local banks have not: e.g. in photovoltaic cells, massive over capacity resulted in Suntech and LDK (both listed in the United States) going bust. See Chen, Tain-Jy (2015).
16. Domestic credit growth is M2 growth minus reserves growth in Figure 1.14.
17. See OECD (2015a).
18. Supposedly less correlated with bonds and equities, though rarely so in practice.
19. The underlying assets may be illiquid and are not traded while a market is made in real time for the shares of the ETF. Zero fees are handled by securities lending.
20. These data are collected separately. While pension and insurance companies hold much of it, these are not taken from institutional investor asset allocations.
21. The cost of equity is the trend earnings growth for the company plus its dividend yield.
22. OECD (2015b) corroborates these results.

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